UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-325/92-37 and 50-324/92-37

Licensee: Carolina Power and Light Company
P. O. Box 1551
Raleigh, NC 27602

Docket Nos.: 50-325 and 50-324 License Nos.: DPR-71 and DPR-62

Facility Name: Brunswick 1 and 2

Inspection Conducted: November 1 through 30, 1992

Lead Inspector: _____ 12/16/92
R. L. Prevatte, Senior Resident Inspector Date Signed

Other Inspectors: D. J. Nelson, Resident Inspector
P. M. Byron, Resident Inspector

Approved By: _____ 12/16/92
H. C. Christensen, Chief Date Signed
Reactor Projects Section 1A
Division of Reactor Projects

SUMMARY

Scope:

This routine safety inspection by the resident inspector involved the areas of maintenance observation, surveillance observation, operational safety verification, onsite review committee, onsite followup of events, and action on previous inspection findings.

Results:

In the areas inspected no new programmatic weaknesses or significant safety matters were identified. There was an additional example of Violation 324, 325/92-34-01 identified for an individual with an inactive license performing licensed duties (paragraph 4).

Improvements to existing maintenance process procedures and development of new process procedures continued, but previously established target dates were not being met (paragraph 5).

The licensee's effort in reducing drawing backlog has been effective (paragraph 8).

Units 1 and 2 remained in cold shutdown during the reporting period.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*K. Ahern, Manager, Operations - Unit 2
*M. Bradley, Manager, Brunswick Assessment Project
*M. Brown, Interim Plant Manager - Unit 2
*S. Callis, Onsite Licensing Engineer
S. Floyd, Manager, Regulatory Compliance
*R. Godley, Supervisor, Regulatory Compliance
*R. Helme, Manager, Technical Support
*M. Jackson, Manager, Maintenance - Unit 2
*M. Jones, Manager, Training
P. Leslie, Manager, Security
*D. Moore, Manager, Maintenance - Unit 1
*R. Morgan, Interim Manager, Brunswick Nuclear Project
R. Poulk, Manager, License Training
C. Robertson, Manager, Environmental & Radiological Control
R. Tart, Manager, Radwaste/Fire Protection
*J. Titrington, Manager, Operations - Unit 1
G. Warriner, Manager, Control and Administration
E. Willett, Manager, Outage Management & Modifications (OM&M)
K. Williamson, Manager, Nuclear Engineering Department (Onsite)

Other licensee employees contacted included construction craftsmen, engineers, technicians, operators, office personnel and security force members.

*Attended the exit interview.

Acronyms and initialisms used in the report are listed in the last paragraph.

2. Maintenance Observation (62703)

The inspectors observed maintenance activities, interviewed personnel, and reviewed records to verify that work was conducted in accordance with approved procedures, Technical Specifications, and applicable industry codes and standards. The inspectors also verified that: redundant components were operable; administrative controls were followed; tagouts were adequate; personnel were qualified; correct replacements parts were used; radiological controls were proper; fire protection was adequate; quality control hold points were adequate and observed; adequate post-maintenance testing was performed; and independent verification requirements were implemented. The inspectors independently verified that selected equipment was properly returned to service.

Outstanding work requests were reviewed to ensure that the licensee gave priority to safety-related maintenance. The inspectors observed/ reviewed portions of the following maintenance activities:

WR/JO 92-BDPG1	Replace run stop solenoid valve on DG Number 4
WR/JO 92-AUKB1	1C Motor repair SW Booster Pump
WR/JO 92-APDU1	Rebuild Unit 1 RHR Instrument Rack
PM 91-064	Refueling bridge modification
WR/JO 92-ABBRJ	Repositioning DG Number 1
WR/JO 92-BDWG1	DG number 1 flex drive inspection

Violations and deviations were not identified.

3. Surveillance Observation (61726)

The inspectors observed surveillance testing required by Technical Specifications (TS). Through observation, interviews, and record review the inspectors verified that: tests conformed to TS requirements; administrative controls were followed; personnel were qualified; instrumentation was calibrated; and data was accurate and complete. The inspectors independently verified selected test results and proper return to service of equipment.

The inspectors witnessed/reviewed portions of the following test activities:

O-MST-DG-501,R3, DG 54 Month inspection.

Violations and deviations were not identified. The licensee performed this procedure in a satisfactory manner.

4. Operational Safety Verification (71707)

The inspectors verified that Unit 1 and Unit 2 were maintained in compliance with Technical Specifications and other regulatory requirements by direct observations of activities, facility tours, disc ssions with personnel, reviewing records and independent verification of safety system status.

The inspectors verified that control room manning requirements of 10 CFR 50.54 and the Technical Specifications were met. Control operator, shift supervisor, clearance, STA, daily and standing instructions and jumper/bypass logs were reviewed to obtain information concerning operating trends and out of service safety systems to ensure that there were no conflicts with Technical Specification Limiting Conditions for Operations. Direct observations of control room panels, instrumentation and recorder traces important to safety were conducted to verify operability and that operating parameters were within Technical Specification limits. The inspectors observed shift turnovers to verify that system status continuity was maintained. The inspectors also verified the status of selected control room annunciators.

The inspectors verified the system alignment and operability of equipment used for the normal and backup means for shutdown cooling on each unit. They additionally, verified that there was no leakage of major components; that proper lubrication and cooling water was available; and conditions did not exist which could prevent fulfillment of each system's functional requirements. Instrumentation essential to system actuation or performance was verified operable by observing on-scale indication and proper instrument valve lineup, if accessible.

The inspectors verified that the licensee's HP policies and procedures were followed. This included observation of HP practices and a review of area surveys, radiation work permits, posting and instrument calibration.

The inspectors verified by general observations that: the security organization was properly manned and security personnel were capable of performing their assigned functions; persons and packages were checked prior to entry into the PA; vehicles were properly authorized, searched and escorted within the PA; persons within the PA displayed photo identification badges; personnel in vital areas were authorized; effective compensatory measures were employed when required; and security's response to threats or alarms was adequate.

The inspectors also observed plant housekeeping controls, verified position of certain containment isolation valves, checked clearances and verified the operability of onsite and offsite emergency power sources.

Inspection Report 325,324/92-34 identified an incident involving a licensed reactor operator assuming the reactor operator watch while holding an inactive license. This occurred primarily due to an inadequate system for tracking watchstander hours. The licensee's corrective action included development of a computer program to track watchstander hours. This program was developed and its initial trial use identified an additional example of the same problem.

A shift supervisor with an inactive license, assumed the duty of shift supervisor for both units for a four hour period on October 29, 1992. At that time, he believed, and the existing tracking system showed, that his license was active. After the computer program identified this case, an investigation by the licensee found the program to be correct. This event occurred because the log used to track watchstanding hours (i.e., Attachment B, Accumulated Watchstanding Hours Log, of Licensee Watchstanding Log Operating Instruction: OI-49, Volume VII, Revision 4) established and tracked a calendar quarter as 13 weeks in lieu of 3 months per quarter. The 13 weeks selected for the third quarter of 1992 (July, August and September) started on June 26 and ended on September 25, 1992. The involved individual stood 12 hours of watch June 29, that was administratively credited to the third, instead of the second quarter. These 12 hours were a part of the 60 total hours required for the third calendar quarter of 1992. Upon identification of the problem, the licensee placed the individual in an inactive status. A computer search of all other watchstanders and potential watchstanders

did not identify any existing or potential problems. The licensee has indicated that they intend to do a selective search of their records to determine if there were any additional occurrences. The licensee had not received Violation 92-34-01 prior to identifying this item. The identification of this item was the direct result of corrective action taken for the above violation. Therefore, this item will be identified as an additional example of Violation 92-34-01. The licensee, in response to Violation 92-34-01, agreed to provide any additional corrective measures that are being taken or planned to address this item.

5. Outage Work Activities (71707)(62703)(37828)

DG & CB Walls

As a result of the licensee's expanded wall inspection/document review, 61 walls have been identified to be upgraded. The present status is:

DG Building - 62% of walls complete overall (53 of 53 designs issued, with 36 of 53 repairs complete, 29 of 47 walls operable. Deficiencies involve anchor bolting, tornado issues, seismic interaction and EDG supply/exhaust air.)

Control Building - 83% of walls complete overall (12 of 12 designs issued with 12 of 12 repairs complete, 10 of 12 walls operable. Deficiencies involve control room habitability, seismic interaction and tornado issues.)

Reactor Buildings - 0% of walls complete overall (4 of 4 designs issued, with 0 of 4 repairs complete, 0 of 2 walls complete. Deficiencies involve tornado and seismic interaction issues.)

RHR/SW Booster Pumps

1A and 1C pumps to be replaced, with 1C replacement in progress.

Diesel Generators

[Diesel Generator Number 4]

On November 2, the licensee performed the monthly operability test on DG No. 4 (OPT 12.2D). At the end of the test the operator was unable to shutdown the engine from the local panel and requested that the control room attempt to stop the engine. The controls did not immediately respond when initiated from the control room; but after a delay of approximately 30 seconds, the engine did stop. On November 3, a repeat test was performed to assist Technical Support in their troubleshooting. DG No. 4 was started, but when loaded to 500 kw the operator observed load oscillations up to approximately 2000 kw. The operator determined that it was not an indicator problem, as he could hear the engine attempt to respond to the load changes. Accordingly, the operator secured the engine and DG No. 4 was declared inoperable.

The licensee attempted to replicate the failure of the engine to stop and also calibrate the governor EGA Control Box. They were unsuccessful in both attempts. The EGA Control Box was replaced. The EGA Control Box and the EGB Actuator and motor operated potentiometers (MOP) had been replaced during the DG. No. 4 outage in November 1991 (Inspection Report 325,324/91-33). Discussions with the system engineers revealed that the licensee is having repetitive problems with the governors, primarily in the area of calibration and MOPs. Woodward has informed the licensee that the existing governors are obsolete and that spare parts and repair services may not be available after 1993. Woodward has recommended that the current governors be retrofitted with the electronic 2301 series. The licensee has, as-to-date, not accepted Woodward's recommendation.

Regarding DG No. 4 failing to start, corrective actions involved replacing the run/stop solenoid valve, the stop/start timing relay (SSTR) and the run control (RC) relay. This work was performed under WR/JO 92-BDPG1. The system engineer was not able to determine the cause of the failure and recommended replacement of the three components that he believed could have caused the problem. In June 1992, DG No. 4 also failed to stop when called upon. The solenoid stop valve was determined to be the cause and was replaced at that time under WR/JO 92-AQKW1. The deficient solenoid valve was sent to the Harris E & E Center and then to ASCO for failure determination. ASCO has not completed its evaluation. The inspector will follow the licensee's efforts to determine the causes of the DG No. 4 problems.

[Diesel Generator Number 1]

While removing the damaged flex drive gear on DG No. 1 during the current outage, the licensee observed that the dowel pins which locate the gear to the crankshaft were damaged. The pins appeared to have been subjected to a high impact torsional force. The pins were displaced at the mating plane, but were neither separated nor bent.

The licensee contracted Failure Analysis Associates (FAA) to provide a root cause analysis of this and other problems identified on DG No. 1. On November 10, FAA arrived on site to gather data.

The licensee sited DG No. 1 in preparation to reposition the diesel engine and determine why it moved approximately 225 mils to the rear and approximately 7 mils to the right. On November 13, the inspector observed the repositioning of the diesel engine, as hydraulic cylinders were placed against the skid to move and correctly position the engine.

The licensee removed all loads from the crankshaft prior to reinspection. The cylinder heads, pistons and cylinder liners were removed. The pistons were weighed to determine if they could have contributed to the imbalance. All pistons were found to be of near equal weight. The cylinder heads were sent off site for refurbishment. The remaining equipment was cleaned and inspected. Damaged equipment, such as valves, were replaced. On November 19, representatives from

Golten-Miami returned to reinspect the unloaded crankshaft. The crankshaft at the front end is machined to two smaller diameters to allow for the mounting of the flex drive. The stub shaft (smallest diameter segment) was observed to be damaged. The inspector observed the grinding of the stub shaft to repair the damage. Golten also took deflection readings of all main journals and the stub shaft. On November 25, Golten concluded that the observed damage on both ends of the crankshaft had been repaired and the crankshaft was acceptable for use.

On November 23, FAA returned to perform eddy-current testing on the crankshaft. It had been determined that the fillets at both ends of each journal were the highest stressed sections of the crankshaft. Preliminary eddy-current testing results indicated that all readings were similar. Analysis revealed that the critical crack size was 60 mils and based on the standard calibration, no crack appeared to be greater than 60 mils. Final results will be based on obtaining eddy-current data from a test block with a 60 mil crack and comparing the test data with actual data. This was not complete at the end of the inspection period.

Installation of the cylinder liners, pistons, and heads was in progress at the end of the reporting period. Finding the original flex drive fly wheel out of balance, the licensee also plans to obtain additional balancing data prior to installing the new flex drive assembly. Initial operation is scheduled for the week of December 7, 1992.

WR/JO Status (Corrective Maintenance)

	Pre 4/21/92	Post 4/21	Completed	Backlog
Unit 1				
Outage	783	1049	960	872
Non-outage	993	3267	2537	1723
			TOTAL	2595
				(-9)
Unit 2				
Outage	673	1599	1288	984
Non-Outage	1582	4717	4119	2180
			TOTAL	3164
				(-9)

The licensee continues to work on the WR/JO backlog. The backlog of corrective maintenance has increased slightly since the previous inspection report. The identification rate slightly exceeded the work off rate for the first three weeks of the reporting period. The identification and completion rates have remained around 40 WR/JOs per day for the last month.

The licensee's minor maintenance program, which allows grouping of several miscellaneous items (i.e., replacing/tightening missing bolts

and/or minor hardware rework), has been very successful. Approximately 900 items have been worked off since this program was implemented.

After initial review and prioritization, the pre-September 26 backlogs contained slightly over 10,000 items. The initial review of these items determined that approximately 52 percent of the items were prioritized to be worked before plant startup. The post-September 26 backlog also continues to increase. There are currently approximately 6300 items in the backlog. The licensee's prioritization process has determined that 1031 and 973 of these backlog items need to be worked prior to Unit 2 and Unit 1 restart, respectively.

The licensee is currently planning a revision to Plant Procedure PN-30, Integrated Recovery Methodology. This procedure is used to review and prioritize backlog WR/JOs. They have indicated that the change will allow further Operations, Technical Support and Management review of the pre- and post-April 21 backlogs and the post-September 26 backlogs. Additionally, the revision will allow deferral of work currently scheduled to be completed prior to startup.

The inspector has reviewed the 235 post-September 26 items that are scheduled for work and noted that the majority consisted of snubber replacements, work on block walls, anchor bolts, plant upgrades, and work to support test and inspections. The inspector has requested a listing of all outstanding work items identified since September 1992. The inspector will review this list when it becomes available and report the results of that review in the next monthly report.

Hardened Wetwell Vents

In response to NRC Generic Letter 89-16, the licensee agreed to install a Hardened Wetwell Vent (HWV) in accordance with design criteria developed by the BWR Owners Group. The inspector reviewed the design information, the plant modification package PM92-073, and the applicable 10 CFR 50.59 associated with the above modification. A walkdown of the portions of the system presently installed in Unit 2 was conducted with the system engineer and project manager for this modification. It appears that the planned and existing portions of the modification will meet the developed design criteria and provide a reliable vent path.

The hardened vent will provide the BWR Mark I containment with an exhaust line from the wetwell vapor space to a release point on the Reactor Building roof. The basic design objective is to mitigate the TW sequence (transient loss of decay heat removal capability). The licensee's HWV system was designed to meet the following criteria:

(a) The vent was sized such that under conditions of a) constant heat input at a rate equal to 1% of rated thermal power and b) containment pressure equal to the Primary Containment Pressure Limit (PCPL), the exhaust flow through the vent is sufficient to prevent the containment pressure from increasing.

(b) The hardened vent was capable of operating up to the PCPL and shall not compromise the existing containment design basis.

(c) The hardened vent was designed to operate during conditions associated with the TW sequence.

(d) The hardened vent includes a means to prevent inadvertent actuation.

(e) The vent path up to and including the second containment isolation barrier was designed consistent with the design basis of the plant.

(f) The hard vent path is capable of withstanding, without loss of functional capability, expected venting conditions associated with the TW sequence. The design precludes possible sources of ignition for combustible gases.

(g) Radiation Monitoring is to be provided to alert the control room operators of radioactive releases during venting.

The Brunswick design consists of a new vent line with an isolation valve and primary rupture disc which connects the wetwell (torus) vapor space to a point above the Reactor Building roof terminating with a second rupture disc (vent panel). This line provides the hardened vent path. This line connects to the Containment Atmospheric Control (CAC) system in the South Core Spray Room between isolation valves CAC-V7 and CAC-V8 at penetration X220 (elevation 7'7"). The pipe is routed out of the Reactor Building through an existing penetration in the west wall (elevation 5'3") and into the "rattle space" between the Turbine and Reactor Buildings. The pipe is then routed up the outside west wall of the Reactor Building to the southwest corner formed by the offset in the Reactor Building wall and up to a point just above the bottom of the metal siding (elevation 119'). The pipe re-enters the Reactor Building through a new penetration in the metal siding and is routed to the roof between the structural members at the offset in the wall above the 117' elevation. The pipe penetrates the roof through a new roof penetration, terminating approximately 2' above the roof.

The pipe connected to the existing CAC piping between valve CAC-V7 and CAC-V8 is 8" carbon steel up to the new isolation valve (CAC-V216). The piping downstream of valve CAC-V216 is 8" stainless steel, through the penetration and into the rattle space. In the rattle space the line material remains stainless steel but the size increases to 12" to support flow requirements. The stainless steel piping and associated stainless steel supports eliminate ongoing maintenance concerns with the piping exposed to the atmosphere. The 12" pipe terminates inside of a 14" stainless steel discharge penetration at the roof line. At the termination point above the roof the 14" pipe opening is covered with a rupture disc (vent panel) to prevent precipitation and debris from entering the line. The piping in the South Core Spray Room has a vent connection between the isolation valve and the primary rupture disc,

providing a vent downstream of valve CAC-V216 for local leak rate testing and preventing overpressurization of the primary rupture disc during testing. A drain is provided on the downstream side of the primary rupture disc at the low point (elevation 5'3"). Expansion joints are installed in the 8" and 12" piping to accommodate the thermal growth the piping will experience during venting. The piping is designed with flange connections for installation of the valve, rupture disc and expansion joints to eliminate transition welds and to facilitate fabrication and installation.

The new isolation valve (CAC-V216) is an 8" air operated butterfly valve, designed consistent with existing isolation valves CAC-V7 and CAC-V8. The operator has an air-to-open, spring-to-close, fail-closed design. Valve CAC-V216 is designed to meet LLRT requirements and will receive a Group 6 Primary Containment Isolation Signal. The valve will have indication in the Control Room consistent with its PCIS function, including ERFIS display.

The control for the HWV system includes existing inboard and outboard Group 6 isolation override controls and a new administratively controlled (keyed) switch for operation of CAC-V216. Valve CAC-V216 will be connected to the existing outboard Group 6 isolation override controls and valve CAC-V7 will be connected to the existing inboard Group 6 isolation override controls. In order for venting to occur at an elevated torus pressure, both the inboard and outboard isolation overrides will have to be activated. The CAC-V7 can then be opened with its normal control switch and the CAC-V216 can be opened with the new keyed switch to commence venting. This arrangement is designed to prevent inadvertent actuation of the system. Valve CAC-V216 has test function capabilities consistent with existing isolation valves to allow verification of operation and for local leak rate testing.

The actuator for valve CAC-V216 is sized to operate against PCPL pressure (70 psig) and flow. The valves' operating air is supplied from the instrument air system. The air piping to the CAC-V7 and CAC-V216 actuators is also connected to the backup nitrogen system. The connections are at the nitrogen bottles downstream of the pressure reducing valve (elevation 50' west) via 3/4" tubing, with isolation valves and soft seated check valves consistent with the existing design. This back up supply allows the valves to cycle a minimum of 20 times on loss of instrument air, ensuring actuator availability during TW venting sequences. The backup nitrogen system will automatically come on line on low instrument air header pressure or a LOCA signal, based on existing logic. The power supply to the air inlet solenoid valve for the CAC-V216 actuator is powered from a Division I electrical source which is switchable to Division II; thereby providing enhanced operating ability under various plant conditions.

The primary rupture disc is installed in the 8" line downstream of valve CAC-V216 and the vent connection. The primary rupture disc has a setting (55+/-2.5 psig) which is above the maximum torus design basis accident pressure (49 psig - LOCA) and serves as an additional sealing

device and added protection against inadvertent actuation. The primary rupture disc helps to ensure that no pressure at or below the plant's design basis will open the vent path to the atmosphere through the HWV line. The second rupture disc will prevent debris and precipitation from entering the pipe and inhibit a free exchange of outside air that could result in condensation.

The HWV modification installs a new Adjacent-to-Line (ATL) radiation monitor. The new radiation monitor consists of high and low range shielded detectors installed on the outside of the piping at the 117' elevation. These detectors are connected to an RM80 processor unit which provides data collection capabilities to quantify radioactive releases vented through the HWV line. The RM80 is also located on the 117' elevation. It will provide an alarm and readout (RM23) in the Control Room to alert the Operators of any radioactivity released through the HWV line.

The HWV line does not perform a function within the Design Basis of the Plant and therefore is not by itself a safety-related (Q) system. The portion of the system up to new valve CAC-V216 does, however, perform a safety-related (Q) function as a PCIS valve. Therefore, the piping and valve is to be installed as ASME Section III, Class 2, safety-related (Q). The new portions of the backup nitrogen system are also to be installed as safety-related (Q) to support the operation of the PCIS valves. All electrical and control functions associated with the PCIS function are safety-related (Q).

Downstream of valve CAC-V216 the piping is classified as nonsafety-related (non-Q) in accordance with ANSI B31.1. All piping is designed to be installed with seismic supports to prevent its failure from impacting other safety-related systems or equipment. The Radiation Monitoring equipment performs no safety-related function and will be installed as nonsafety-related (non-Q), but will be seismically supported.

The inspector's independent review of the licensee's 10 CFR 50.59 evaluation did not identify any safety concerns associated with this modification. The licensee anticipates that the Unit 2 installation will be completed by mid-February and the Unit 1 installation will be completed by April 1993. The inspector will continue to follow the installation and testing activities until they are completed.

Drywell and Torus Inspection

The inspector (accompanied by a regional inspector, the licensee and Bechtel) performed a visual inspection of the Unit 2 Drywell on November 18, 1992. This inspection primarily focused on the work being done on miscellaneous steel. The inspector noted that these activities appeared to be progressing well. The inspector noted that housekeeping efforts appeared to be marginal and that an extensive cleanup would be needed after the steel rework activities are completed and deck grating has been replaced. The inspector noted that numerous areas other than

miscellaneous steel work needed to be cleaned and the appropriate coating reapplied. There was also a significant amount of repair needed on ventilation ducting and mirror insulation. Rust was observed on components and floor areas in the lower elevations. The need for extensive cleanup, fix up, and coating repair was discussed with the Unit 2 Plant Manager. He agreed to accompany the inspector on a tour to ensure these items are corrected prior to restart.

6. Other Areas

a. Commissioner James Curtiss and his technical assistant visited the site on November 9, 1992. The licensee made a presentation of plant status, current issues, and work activities. The Region II Director of Reactor Projects accompanied Mr. Curtiss at the meeting and the plant tour which followed.

b. The Region II Director of Reactor Safety and the Director of Radiation Safety and Safeguards visited on November 13 and 20, 1992, respectively. They toured the site and held meetings with the resident and plant management staff to discuss completed and planned work activities and schedules.

c. The inspector held several discussions with the licensee regarding efforts to upgrade the document control program. The licensee, with outside assistance, reviewed its existing program and implementation. Development of a new program for inclusion in the new three-year operating plan is in progress. The program includes significant individual responsibility, though somewhat less than the existing program. The inspector will conduct additional review of this item upon receipt of the CP&L Three Year Plan in December 1992.

7. Onsite Review Committee (40500)

The inspectors attended selected Plant Nuclear Safety Committee meetings conducted during the period. The inspectors verified that the meetings were conducted in accordance with Technical Specification requirements regarding quorum membership, review process, frequency and personnel qualifications. Meeting minutes were reviewed to confirm that decisions and recommendations were reflected in the minutes and followup of corrective actions was completed.

There were no concerns identified relative to the PNSC meetings attended. The resolution of safety issues presented during these meetings was considered to be acceptable.

8. Engineering

Drawing Backlog (37702)

The licensee has made a concerted effort in reducing the drawing backlog. On July 4, 1992, the as-built drawing backlog was 3868

drawings. This had been reduced to a backlog of 718 drawings which is an 81 percent reduction. The inspector has concluded that the licensee's program to reduce the drawing backlog is effective and this item will no longer be tracked.

Fire Protection Seals

The gap between the DG pedestals and the diesel building was originally filled with Rodofoam to act as a seismic insulator. This was later qualified as fire barrier material to meet Appendix R requirements. Over a period of time, oil from the diesel engines seeped into the gap and was absorbed by the Rodofoam. This resulted in the Rodofoam becoming a fire hazard rather than a fire barrier. The licensee wrote LER 1-92-016 documenting this issue and implemented fire watches as a compensatory measure. Several methods to remove the Rodofoam have been evaluated. Removal by a high pressure water lance from under the DG appeared to have the best potential as it would have the least time impact. DG Number 4 was selected as a pilot program to demonstrate the effectiveness of this method. The licensee was able to demonstrate that by using Special Procedure, 2-SP-92-048, Removal of DG No. 4 Pedestal Seal and Permanent Angle, it could remove most of the insulation from below. The remainder is planned to be manually removed from above. The inspector observed the use of this procedure and noted that the licensee controlled the overspray and protected nearby equipment.

9. Followup of Licensee Event Reports (92700)

(Closed) LER 1-91-001, Dropped Fuel Bundle During Refuel Outage 7. During refueling reloading operations on January 2, 1991, a fuel bundle dropped 127 inches into its core position (09-16). No releases occurred. The refuel grapple opened when the bundle encountered resistance and there was a momentary loss of power. The grapple's fail safe position was to remain closed on a loss of power. Investigation revealed that the air hoses to the grapple solenoid valves were found reversed. The grapple operating switch was found to be rotated in its mounting opposite from its intended configuration which compensated for the air hose reversals. The SIIT investigation determined that the event was not caused by operator error. The licensee was unable to determine if the hose reversal existed since construction or if it occurred during maintenance. Installation records or as-built drawings could not be located. Maintenance records were poor as all work was performed using a generic work order. SIIT Report 91-01 contained twenty-four recommendations which included a review by GE of the procedures, an engineering evaluation procedure, system description upgrades, and as-built drawings of the refueling bridge. The inspector reviewed the licensee's corrective actions and found them to be adequate.

(Closed) LER 1-91-010, ESF Actuation; Primary Containment Isolation System Group 1 Isolation of the Main Steam Line Isolation Valves When the Turbine Speed Control Logic Spuriously Selected the 1800 rpm Mode. Investigation revealed that the spurious selection of the 1800 rpm mode

was caused when the normally closed contacts of a relay in the EHC circuitry failed to maintain closure after the relay coil was de-energized. The defective relay card was replaced and the licensee was unable to determine the cause of the failure. The corresponding Unit 2 relay was inspected (WR/JO 91-AIIK1) on November 21, 1991, and no abnormal contact operation was observed.

10. Exit Interview (30703)

The inspection scope and findings were summarized on December 1, 1992, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection findings in the summary. The licensee committed to include the second example of violation 325,324/92-34-01 in their response to that violation. Dissenting comments were not received from the licensee. Proprietary information is not contained in this report.

11. Acronyms and Initialisms

ANSI	American National Standards Institute
ASCO	Automatic Switch Company
ASME	American Society for Mechanical Engineers
BWR	Boiling Water Reactor
CAC	Containment Atmospheric Control
DG	Diesel Generator
E&E	Energy and Environmental
EHC	Electro Hydraulic Control System
ERFIS	Emergency Response Facility Information System
FAA	Failure Analysis Associates
GE	General Electric
HWV	Hardened Wetwell Vent
LER	Licensee Event Report
LLRT	Local Leak Rate Test
LOCA	Loss of Coolant Accident
MOP	Motor Operated Potentiometers
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
PA	Protected Area
PCIS	Primary Containment Isolation System
PCPL	Primary Containment Pressure Limit
PNSC	Plant Nuclear Safety Committee
RHR	Residual Heat Removal
STA	Shift Technical Advisor
SW	Service Water
TS	Technical Specification
TW	Transient Loss of Decay Heat Removal Capibility
WR/JO	Work Request/Job Order